



Northwest Indian Fisheries Commission

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Department of Ecology
Water Quality Program

AUG 09 2002

Mr. Tom Fitzsimmons, Director
Washington State Department of Ecology
P.O. Box 47600
Olympia, WA. 98504-7600

RE: Tribal Comments on Proposed Changes to the State Water Quality Standards

Dear Mr. Fitzsimmons:

Tribal governments in western Washington have been tracking and commenting on Washington State's water quality standards revisions for nearly a decade. To preface the following comments, we wish to clearly identify our expectation of government-to-government interaction between your agency and individual tribal governments, as we proceed into what is anticipated to be final rule making in the coming year. We expect that the comments contained in this letter will affect the content of the Fall 2002 draft currently being developed. As you know, the process surrounding this triennial review has been long and controversial. The following letter is an effort to collectively state some of the concerns and issues held by tribes that are encapsulated in the proposed December 2001 draft and supplemental information resultant from the roundtable process initiated by your agency. It does not replace or supercede any comments or communications from individual tribal governments to the Department of Ecology.

As you are well aware, water quality standards are a backbone piece of state and tribal salmon recovery efforts. At a time when Washington State is working to protect and restore diminished salmon stocks and their habitats, water quality standards that weaken existing water quality protections are unacceptable. Upon initial analysis, after nearly a decade of process, consideration and review, your agency is proposing to present a water quality standards package that shows very limited environmental improvement, and will not effectively protect the salmon resource or adequately accommodate tribal government participation. (see below for specifics.)

The overarching context of these comments is our belief that the Department of Ecology has, since the December 2001 draft, re-focused its efforts on creating a standards package aimed at simplifying water quality rules to relieve the regulated community. This must not be done at the expense of water quality protection. Tribal governments are providing comments in an effort to improve the capability of the next iteration of draft water quality standards to support aquatic life dependant on cool, clear, flowing water.

Tribes believe that a government's water quality standards define its water quality goals. Washington State has been consistent in its message that salmon recovery is a priority. The following is a summary of specific tribal issues and suggestions for improvement of the current proposal for revision of Washington State's water quality standards in their ability to protect and support the fisheries resource:

TEMPERATURE:

Degradation of criteria. In every category but redband trout rearing and warm water fish, the criteria for the 7-day average of the daily maxima (7-DADM) were relaxed from those proposed in December 2001, which were already near the upper end of acceptable temperatures for salmonids. For example, the December 2001 draft proposed a 7-DADM of 15°C for salmon, steelhead, and trout rearing, while the revised criterion is 17°C. This upward revision constitutes a shift to beyond the upper end of the optimal temperature range rearing of chinook and sockeye salmon, and rainbow and cutthroat trout (Hicks 2000). Further, the recommended optimal productivity temperature for chinook juveniles is 10 to 15.6°C, and temperatures greater than 15.6°C significantly increase the risk of mortality due to warmwater diseases (McCullough 1999). The proposed standard clearly fails to protect the rearing life stage for salmonids, including listed chinook.

Eliminating the 1-day maximum temperature criterion and adding the 21-day average temperature criterion also effectively relaxes the standard, because the occurrence of detrimentally high temperatures will be obscured by the inclusion of both significantly lower nighttime temperatures and potentially lower daytime temperatures over the 21-day time frame. For example, a 21-day average of 12.9°C was recorded in the South Fork Nooksack River in the period leading up to July 23, 2002, which would be in compliance with the newly proposed standard for rearing salmon, steelhead, and trout, while the daily maximum temperature exceeded 18°C. Similar statistics can be cited for the 7-DADM relative to the 1-day maximum. Over the period from 9/1/2001 to 9/30/2001, within the spawning period for South Fork Nooksack River early chinook, the 7-DADM was 14.3°C while the 1-day maximum was 16.9°C. Numerous technical studies have cited a maximum temperature of 14.5°C for spawning chinook (Hicks 2000).

Simplification of criteria. The literature related to temperature effects on salmonids is complex and extensive. Temperature requirements vary by species and life history stage and numerous parameters have been reported in the literature, including optimum temperature range, preferred temperature range, acute and final temperature preferences, tolerance temperature range, feeding limit, upper incipient lethal temperature, and upper lethal temperature. Within a species and life history stage, the effects of a given water temperature also depend on duration of exposure, temperature to which individuals have been acclimated, and the presence of other environmental stressors (e.g. limited food, low dissolved oxygen; McCullough 1999). Understanding the implications of different temperature statistics (1-day maximum, 7-DADM, 21-day average) to the productivity and survival of salmonids populations is complicated, but salmonid recovery can only be accomplished if standards cover biologically relevant time scales, from minutes to

seasons. We assert that standards should be established for the 1-day maximum parameter, as well as the 7-DADM and 21-day average.

The proposed criteria generalize species temperature requirements, grouping all salmon, steelhead, and trout, and do not consider important life history stages, such as migration and smoltification. As they stand now, the proposed standards will fail to protect Spring / Summer chinook and bull trout, both of which are listed species. As there is no standard proposed for migrating salmon and trout, the 7-DADM standard will serve as the default to afford protection for the migration and holding stages of early river-entry salmonids. McCullough (1999) states that when ripe adult chinook females are exposed to temperatures beyond the range of 13.3 to 15.6°C, pre-spawning mortality becomes pronounced, and the survival of eggs to the eyed stage decreases. The absence of a proposed migration standard for bull trout/Dolly Varden trout will also fail to protect a critical life stage. Bull trout distributions are thought to be limited by temperatures above 15°C (Federal Register/vol. 63, no. 111), and anadromous adult bull trout migrate upstream and hold during summer months. Developing a spawning and rearing threshold to be applied to upper watershed areas may protect those life stages, but it completely fails to recognize that anadromous bull trout first have to migrate to these areas. It also fails to recognize the need to protect for the non-natal tributary rearing of sub-adult native char. The standards should be modified to protect these two critical life history stages, and the standards need to apply to the mainstem and accessible tributary habitats downstream from the known migratory char population areas. Migratory corridors are critically important to anadromous bull trout, and the Dec. 2000 proposal of 12°C 7-DADM for migration of native char should be included in these standards, and it should apply to the mainstem and accessible tributary habitats downstream from the known migratory char population areas.

Use of the 7-day average for temperatures. The 7-DADM is an approved metric to be used where data is available but it should not be made the only standard since continuous temperature data is not available for most areas. Using a 7-DADM model, coupled with setting temperatures at the upper limits decreases the likelihood of supporting fish. Additionally, there is no assurance that there is any protection from adverse impacts associated with short-term (sub 7-day) exceedences. Further, when 7-days of data are not available for accomplishing 7-DADM – what happens – do these fall off the table? Maybe the absolute minimum fall back should be in place. In some scenarios utilizing 7-DADM could actually be a dis-incentive for monitoring. We suggest that there should be a 1-day absolute maximum number to serve as a default back-up to both protect fisheries and to simplify compliance monitoring.

Temperature and DO interface. The proposed temperature criteria will also make compliance with the dissolved oxygen standards difficult. Waters will have to be at levels close to full saturation, which coupled with increased respiration associated with warmer temperatures could create large dissolved oxygen sags, even with lower nighttime temperatures.

Application of separate spawning criteria. Ecology is not acknowledging, in its proposed temperature approach, that important and ESA-listed stocks begin spawning during the summer when temperatures are elevated (e.g. South Fork Nooksack Spring Chinook). The proposed spawning and rearing criteria of 16°C absolutely does not protect spawning, as documented in Ecology's own supporting information. The premise that, "There is no need for separate spawning criteria because most waters will naturally cool down enough to protect spawning." (July 2002 Focus Sheet "New Temperature Criteria for Freshwater"), is simply wrong.

Selection of sites for applicable data. An issue of considerable concern contained throughout the document is the standardization of assessment methodology. When river reaches have such diverse habitat from upstream to downstream and from watershed to watershed, and when runs of salmon have different tolerances, depending on where they have evolved, selection of sites is critical. For example: how and where is temperature being measured? There is a presumption of homogeneity that is perhaps convenient for humans but most likely to be detrimental when considering salmonid preservation or recovery. The state needs to recognize within its rules that ESUs from one part of the state are likely to have differing water quality requirements from those of another. They migrate at different times, eat different prey, have different needs for refugia, and have different water temperature requirements. While a rule package designed to address this would be more complex, it is the only realistic way to protect water quality for fish. Tribes as fisheries managers are keenly aware of the dramatic differences in the nature of the river systems across Washington State. Since these river systems are *not* homogeneous, how will Ecology apply the standards within each different watershed context? If we are in a situation where we have to accommodate sweeping numbers we suggest Ecology make them more protective rather than marginally so.

Tribal governments advocate for temperature standards that reflect regional environments and ESUs of the differing stocks of salmonids and which will support healthy fish populations at all of the life history stages of protected fish. One possible and relatively simple solution would be the establishment of eastside / westside subsets. While this initial course division of eastside and westside systems would by no means satisfy the differing needs found watershed by watershed, and even sub-basin to sub-basin, it would be a beginning.

In summary the current proposal operates on a best case scenario type of management by employing numbers found at the upper end of acceptable temperatures for salmonids. This simplified and minimalist approach does not accommodate the spectrum of lifestage needs and allows for no other environmental stressors. Shifting to maximum tolerance ranges as the standard clearly shifts salmon to the highest proportion of risk to salmon. This strategy provides no support for recovery and protection; an unacceptable position for Ecology to be in at time of such diminished fisheries resources.

We suggest that Ecology, at a minimum, maintain the temperature standards as laid out in the December 2001 draft. While we recognize that streamlining the application and implementation of standards are legitimate and important objectives, they would be

much more appropriately applied in program implementation rather than in the establishment of criteria and standards.

Science to support water temperature needs of fish is known and available.

Extensive scientific review has been accomplished regarding the imperative of temperature to fish health. We refer you to the EPA Regional Temperature Criteria Project and associated documents as well as literature generated within your own agency as part of forest practices and water quality standards development. Additionally, we have attached several tribal documents to further underscore the importance of this component of any standards package with a credible claim to protection of "fishable" waters.

ANTI-DEGRADATION:

Anti-degradation should mean just that. No degradation should be allowed beyond existing water conditions even if the existing conditions meet or exceed CWA requirements. Overall, the policy as currently described needs much more precision as to methods for implementation and antidegradation review triggers.

The purpose of policy must meet the requirements of the CWA: That is: "restore and maintain the chemical, physical, and biological integrity of state's waters." Not "for restoring and maintaining the highest possible physical, chemical, and biologic integrity of surface waters of the state." Use policy and implementation as an opportunity to improve the state's degraded watersheds and protect improvements to water quality, rather than providing additional license to pollute.

In the "applicability of" section: rather than "all actions...that contribute to the lowering of water quality of surface waters of the state" should be "all activities which have potential to diminish chemical, physical, and biological integrity of state's waters." Do not be overly restrictive in identifying the actions that will trigger a review; activities that are not permitted or certified that already and/or will in the future impact chemical, physical, or biological integrity of state and tribal waters need to be included in antidegradation reviews. What is the trigger for those activities (existing, future modifications) that are not permitted or certified (in the case of waiver by Ecology re: hydropower projects), which significantly alter physical, chemical and biological integrity of the waters? Or risk integrity of tribe's treaty resources?

Regarding protection of high quality waters, 5(a)(i): Departmental consultation with tribes whose treaty areas or reservation waters may be affected by a proposed action to lower water quality should be included in the intergovernmental coordination requirement.

Also with regard to protection of high quality waters: CWA implementing regulations obligate the Department to "assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control (40CFR 131.12)

In protection of high quality waters, (5)(a)(i) and 5(b): The alternative analysis to evaluate whether proposal provides benefits that are in the overriding public interest necessarily must include all tangible and intangible (economic, social/cultural, environmental and legal) costs and benefits associated with “lowering water quality” vs. maintaining the chemical, physical and biological integrity of state waters (“no action alternative”). Benefits must include value of clean water and protection of beneficial uses. If proposal impacts tribal treaty areas, cultural resource costs must be incorporated into the analysis.

In General Permits and Control Programs, Section (6): General permits and pollution control programs should meet the requirements of this section and be subject to public review and intergovernmental coordination, including tribal consultation.

In the Special Protection for Water Quality Preservation Areas (WQPAs), Section (7) – Water quality preservation areas should include waters documented to be of critical ecological significance in the recovery of species listed under ESA. The determination in establishing water quality preservation areas should not be based on “the relative level of difficulty of maintaining the waterbody at its current quality” or “where the watershed draining to the proposed WQPA waterbody has significant levels of human development...that would make maintaining the current quality practically impossible (Section 7(b)(i)). Rather, it is precisely those degraded areas, near mouths of rivers, where reservations are situated, and where tribal resources have already been placed at significant risk. These areas also tend to be critical for juvenile salmonids to osmoregulate in transitioning between freshwater and saltwater environments and where restoration is key to the recovery of listed species. The eligibility of WQPAs should be based on the significance of the waterbody alone, without consideration of “management challenges” that place tribal resources at further risk.

With regard to Public and intergovernmental Review, Section (8) – should include tribal consultation for treaty-affected and reservation waters. Protection of high quality waters, 5(a)(i): Departmental consultation with tribes whose treaty areas or reservation waters may be affected by a proposed action to lower water quality must be included in the intergovernmental coordination requirement.

Legislative designation of Tier III waters. Tribes do not support delegating Tier III designation to the Governor or Legislature. Tier III designation based on “exceptional ecological significance” can not be defensibly determined by a political entity; rather should be determined by Ecology, the agency with the mission to protect the chemical, physical, and biological integrity of state’s waters.

USE ATTAINABILITY ANALYSIS:

Use Attainability Analysis (UAA) were, under the Clean Water Act, intended for naturally occurring situations where standards could not be met. The standards could be used as targets to get waters back to where they should have been. UAA’s are now being

used to eliminate uses based on economics because a discharger does not want to clean up their effluent. However, the economics that are being left out of the equation are the disproportionate cultural losses and financial impacts the tribes are being forced to take in the name of pollution. A specific example could be the utilization of a UAA to re-define aquatic use expectations resultant from impacts from hydroelectric projects. Tribes do not accept this shift in application of CWA authorities. The state must recognize that the economic analysis to allow a UAA must recognize and consider tribal economies and cultures.

A specific revision to this section should include the identification of a process to formally engage **tribal governments in a government to government co-management approval process regarding use designation changes**. The revised Washington State water quality standards rule should clearly articulate the necessity of and process for identifying and seeking approval from affected tribes regarding the re-designation of any uses within the rule.

In addition, there appears to be the perception that char are not currently protected under the existing Washington water quality standards. While char are not explicitly protected under current standards, char use is currently protected under "Other fish migration, rearing, spawning, and harvesting" in Sections 030(1)(b)(iii), 030(2)(b)(ii) of the water quality standards currently in place. A UAA is required to not assign char uses in the proposed revisions where it is not an existing use. Where char use is existing, it *cannot* be removed. The char maps utilized by Ecology do not contain the most up-to-date distribution information.

BACTERIA:

Maintain fecal coliform monitoring. While we understand that Ecology is under pressure from EPA to change its bacteria standard, it is necessary to maintain fecal coliform bacterial monitoring to link general water quality standards to the bacteria standards which govern shellfish harvest, of prime commercial and subsistence importance for tribes. Relying on an approximate correlation between enterococci and fecal coliform data may be insufficient for TMDL development when shellfish harvest areas are closed due to uplands (fresh water) pollution sources. Who will determine which areas are "shellfish harvesting areas" and therefore that fecal coliform bacteria monitoring in marine waters will continue? Tribes must be engaged as government co-managers, individually in their areas of concern, in the bacterial monitoring determination process.

The clam, oyster, mussel rearing and spawning standard (aquatic life (f)) should be dropped, focusing the rule for all shellfish and crustacean spawning and rearing and harvesting as in aquatic life (e).

The shellfish section *must* include the fecal coliform bacteria standard (ii) which should be modified to exactly meet FDA standards: use of 90th percentile instead of 10%, and

averaged over the most recent 30 samples. A section should be added referring to the equivalent enterococci and ecoli standards which are assumed to achieve this result.

The 90th percentile and 30 most recent samples should also be incorporated into General Considerations 4(d) Averaging Bacterial Sample Data.

Under General Considerations: 4 (c) Site Specific Bacterial Standards, the tribes must be given a co-management role as specified in the Consent Decree with the Department of Health in identifying waters as causing or significantly contributing to the decertification or conditional certification of commercial or recreational shellfish harvest areas.

Under General Considerations: (2) Where Fresh and Marine Waters Meet, reference must also be made to ecoli criteria from upland sources which must be met to achieve the enterococci and fecal coliform standards here.

DISSOLVED OXYGEN:

During the Stakeholder / roundtable process in June, Ecology proposed new standards for dissolved oxygen. The new proposal includes changing the existing metric of a one-day minimum to a four month rolling average; proposing different standards for spawning and rearing waters vs. rearing only (which would correspond to existing Class B waters); and proposing a separate standard for warm water fisheries. The new proposal, as we understand it, looks like this:

9.5 mg/L (4 month rolling average) for salmonid spawning and rearing waters;
8.5 mg/L (4 month rolling average) for rearing waters only; and
7.0 mg/L (4 month rolling average) for warm water fisheries.

Earlier Ecology proposals for DO criteria were based on comprehensive evaluation of scientific literature. Mr. Hick's December, 2000 publication Evaluating Criteria for the Protection of Aquatic Life in Washington State's Surface Water Quality Standards presents a review of technical literature "in consideration of the species and environmental conditions in the State of Washington" (p.ii). The recommended criteria in this paper were based on oxygen requirements for specific lifestages of salmon, char and trout and warm water and non-salmonid species, including taking into consideration macroinvertebrates species. Macro-invertebrates are also important in that they are a critical food source for fish. The goals for setting criteria, according to Mr. Hicks, were to afford "very high" levels of protection because many of the state's cold water species are listed or candidates for listing under the Endangered Species Act. Furthermore, he writes, Washington law (RCW 90.48) directs Ecology to establish the highest possible standards for our waters. DO criteria recommended in this paper include the following:

"It is recommended the existing three class-based dissolved oxygen criteria thresholds of 6.5, 8, and 9.5 mg/L be replaced by criteria that are assigned based on the presence or absence of salmonids, with the salmonid class further divided based on the occurrence of spawning. It is recommended that in the waters supporting salmonid spawning, the average minimum dissolved oxygen concentrations exceed 10.5 mg/L from September 15

– May 31, with no single daily minimum less than 9.0mg/L. In waters or times only being used for salmonid rearing, daily dissolved oxygen concentrations should simply not fall below 8.0 mg/L. In waters that do not support salmonids, dissolved oxygen should be maintained above 7.0 mg/L year-round.” (p.ii)

The Endangered Species Act and Washington State law obligate Ecology to set the highest possible standards for our waters to protect beneficial uses and ensure recovery of listed species. To meet these obligations, it appeared Ecology was on the right track in comprehensively evaluating available scientific literature and setting dissolved oxygen criteria based on life stage needs of cold and warm water fish. We agree with earlier (2001) proposals breaking out the following designations: salmonid spawning/incubation, salmonid rearing, and salmonid migration, in addition to native char spawning, incubation and rearing.

4-month average is unacceptable. We support employing the previous proposal to use average daily minimum and daily maximum metrics for measurement as opposed to the recent suggestion of a 4-month rolling average. Oxygen needs for the most sensitive life stages of the fishery are dependent on minimum thresholds as opposed to average thresholds. These minimums should be necessarily instantaneous as opposed to spanning a time continuum of four months. Obviously, the life requirement for oxygen is based on attaining a minimum threshold of oxygen so that no impairment results. Proposing a four month threshold poses unreasonable risks to the fishery. Theoretically, fish could be exposed to hypoxic conditions for an extended duration, resulting in death or changes to their growth and reproduction functions, while complying with the four month standard.

We implore Ecology to re-assess their new proposal based on their obligations to meet the requirements set forth in Washington State law and the Endangered Species Act and reconsider their December 2001 proposal.

MIXING ZONES:

Generally, tribes are concerned with the states proposed 33° C temperature allowance for mixing zones. These mixing zones and associated discharge areas can create an attractant flow, ultimately resulting in a fish blockage due to temperature or pollutant thresholds. Tribes are much more supportive of the proposal being crafted by the EPA Regional Temperature Group of 24° C.

The following are suggested revisions to the proposed WAC language by section number:

Section 1: Allowable size and location should be established in Section 401 certification of the CWA. Ecology should also have discretion to revise or revoke authorization of mixing zone upon expiration of the permit or order if information suggests that the nature and impacts of the mixing zone are different than those used to establish the mixing zone specifications.

Section 2: The applicant should be required to show, to the satisfaction of Ecology, that AKART has been fully applied before a mixing zone is granted.

Section 3: In addition to considering critical discharge conditions, determination of the dilution available and size of mixing zones should include the following: mixing characteristics of the receiving water, characteristics of the effluent, and impacts to use classifications of the receiving water.

Section 4: No mixing zone should be granted unless the supporting information clearly indicates the mixing zones would not, as determined by Ecology, have any potential to adversely affect biota or interfere with the existing or designated uses of the water body, create a barrier to migration of species, adversely affect the ecosystem, or adversely affect public health.

Section 5: At the discretion of Ecology, water quality at the edge of the mixing zone shall be field verified. Ecology, as necessary, may require mixing zone studies and/or bioassays to be conducted to evaluate water quality or biological status within and outside the mixing zone boundary.

Section 6: Ecology shall consider prohibiting or decreasing the size of the mixing zone for the discharge of known or suspected carcinogens, mutagens, teratogens, or bio-accumulative or persistent pollutants; or where discharges could cause an exceedence of the chronic criteria outside the mixing zone boundary; or where aquatic life could be attracted to the effluent plume and harmed; or where the mixing zone could impact drinking water intakes, recreational sites, spiritual or cultural areas, or biologically important sites such as fish spawning/nursery sites.

FLOW:

There is currently no link between state water quality standards and water rights programs. Water quality is directly affected by water quantity and must be linked to the water rights process. Examples are the lack of interface between the 303(d) listing policy / process and water right permitting, and the lack of water quantity considerations in the development of TMDLs. How will the state adjust the application of water quality standards with the realization of actual existing flows.

GENERAL CONSIDERATIONS:

The exemption portion of this section should be deleted. The way it is currently proposed would accommodate corner-cutting to speed up the permit process. Exemptions too frequently end up being "close enough" standards and not water quality standards that truly protect the intended use. Exemptions, if the state really wants to include them, should by default be for the highest most restrictive water use, to do otherwise is to invite abuse of the standards and water quality.

GENERAL ISSUES:

Recent Ecology roundtable stakeholder process was not an appropriate process for integration of tribal government issues. Tribes have had considerable frustration with Ecology's approach to these water quality standards revisions. Fundamentally, tribal governments wish to support Ecology in developing and implementing a water quality standards program that provides meaningful protection to the fisheries resource. This ten-year triennial review process has engaged and dis-engaged so many times with so many different approaches that tribes have had difficulty participating. The most recent "roundtable" process was clearly inappropriate for tribal government participation. There are however substantial differences between the December 2001 Draft and revisions proposed respondent to the stakeholder meetings held over the Spring. The revisions stemming from DOE stakeholder process degraded and simplified the criteria, to the detriment of listed and treaty fishery resources.

Ecology should consult with tribes for availability of WQ data. While tribal governments are advocating for establishing standards meaningful to protect fish, they also are able and willing to assist in accomplishing the data requirements of that approach. We request that the state actively consult with tribes on the availability of tribal water quality data.

In closing, tribal governments understand and appreciate the complex and competing issues surrounding this rule revision process. However, our view is that the Washington State Department of Ecology, as a governmental entity charged with regulating and protecting the states water resources, should ultimately propose criteria, standards and rules appropriate to the lifestage needs of fish. Our sincerest hope is that our comments presenting here will assist in that development process and that we will be able to actively provide support for Ecology's final rule package due out in Fall 2002.

Sincerely,

A handwritten signature in dark ink, appearing to read "James R. Anderson", with a stylized, flowing script.

James R. Anderson,
Executive Director